

What is claimed is:

1                   1.       A programmable batch processing engine for a computer network,  
2                   comprising:

3                        a design tool subsystem operable on a first computer that creates a set of  
4                   specifications in response to user input, the set of specifications defining a template for  
5                   user-desired processing services to be performed;

6                        wherein the specifications identify processing properties for said  
7                   processing services to define the execution of a batch application;

8                        a specification server subsystem adapted to store said template for  
9                   enabling access to said template from the computer network;

10                       a processing subsystem adapted to perform processing of the batch  
11                   application according to a user defined version of said template; and

12                       a middleware subsystem providing communication of the specifications  
13                   from the design tool subsystem to the processing subsystem

1                       2.       An engine as in claim 1, wherein the processing subsystem is  
2                   implemented using the first computer.

1                       3.       An engine as in claim 1, wherein the processing subsystem is  
2                   implemented using a second computer.

1                       4.       An engine as in claim 1, further comprising a second computer,  
2                   wherein the specifications are sent from the first computer to the second computer for  
3                   storage, and are sent from the second computer to the processing subsystem for  
4                   processing.

1                       5.       An engine as in claim 1, further comprising a network having  
2                   database facilities and further comprising a database middleware subsystem adapted to  
3                   direct access to the database facilities in accordance with the specifications.

1                       6.       An engine as in claim 1, further comprising a network having  
2                   input-output facilities and further comprising an input-output middleware subsystem

3 adapted to direct access to the input-output facilities in accordance with the  
4 specifications.

1           7. An engine as in claim 1, wherein said processing subsystem is  
2 implemented using a second computer adapted to send to the first computer completion  
3 data in response to completion of processing in accordance with the specifications by the  
4 second computer.

1           8. An engine as in claim 1, wherein said processing subsystem is  
2 implemented using a second computer adapted to send to the first computer error data in  
3 response to detection of an error in processing according to the specifications by the  
4 second computer.

1           9. An engine as in claim 6, wherein the input-output middleware  
2 subsystem is adapted to selectively route an input-output data stream to one of a plurality  
3 of input-output devices and to convert the data stream to a format suitable for the selected  
4 one of the plurality of input-output devices

1           10. A data processing method, comprising:  
2           generating a set of specifications defining a template for user-desired  
3 processing services to be performed;  
4           identifying processing properties for said processing services to define the  
5 execution of a batch application;  
6           storing said template on a specifications server, said template thereby  
7 being available to a plurality of users;  
8           sending said template to a processing subsystem for processing the batch  
9 application according to a user defined version of said template; and  
10           sending the results of the processing to one of said plurality of users.

1           11. A method as in claim 10, further comprising directing access to  
2 database facilities in accordance with the specifications by using database middleware.

1           12. A method as in claim 10, further comprising directing access to  
2 input-output facilities in accordance with the specification by using input-output  
3 middleware.

1                   13. A method as in claim 10, further comprising sending completion  
2 data from the processing subsystem in response to completion of processing in  
3 accordance with the specifications by the processing subsystem.

1                   14. A method as in claim 10, further comprising sending error data  
2 from the processing subsystem in response to detection of an error in processing in  
3 accordance with the specifications by the processing subsystem.

1                   15. A method as in claim 12, further comprising selectively routing, by  
2 the input-output middleware, an input-output data stream to one of a plurality of input-  
3 output devices and converting the data stream to a format suitable thereto.

1                   16. A programmable batch processing engine for a processing system  
2 including a plurality of computers connected by a network, comprising:

3                   design tool means for creating a set of specifications on one of the  
4 computers defining a template for desired processing services, said specifications  
5 identifying processing properties for said processing services to define the execution of a  
6 batch application;

7                   specification means for storing said template on another one of the  
8 computers to provide the plurality of computers with access to said template;

9                   processing means responsive to said template for processing said  
10 batch application in accordance with a user defined version of said template on a further  
11 one of the computers; and

12                   middleware means for communicating information including said  
13 set of specifications between the plurality of computers.

1                   17. An engine according to claim 16, further including database means  
2 for storing data required by said processing means when executing said batch application  
3 on an additional one of the computers.

1                   18. An engine according to claim 16, further including output means  
2 responsive to completion data generated by said processing of said batch application for  
3 managing output information on an additional one of the computers.

1                           20. A method according to claim 19, further including storing data  
2 required by said processing means when processing said batch application on an  
3 additional one of the computers.

1                           21. A method according to claim 19, further including managing  
2 output information on an additional one of the computers in response to completion data  
3 generated by said processing of said batch application.